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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,324	06/27/2001	Osamu Samuel Nakagawa	10004808-1	3635

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
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EXAMINER
SCHILLINGER, LAURA M

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 05/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/891,324

Applicant(s)

NAKAGAWA, OSAMU SAMUEL

Examiner

Laura M. Schillinger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sandhu ('206).

In reference to claim 1, Sandhu teaches a method comprising:

Forming a first electrode (20) in a first dielectric layer (18 or 19) of the multi-level metallization device (Fig.3B)

Depositing a substantially thin dielectric material layer (22) over the first dielectric layer (18 or 19) of the multi-level metallization device (herein after referred to as "MLM") (100) (Fig.3B); and

Forming a second electrode (25) in a second dielectric layer (23), wherein the second dielectric layer (23) is formed substantially over the substantially thin dielectric layer (22) (Fig.3B).

In reference to claim 2, Sandhu teaches further comprising:

Patterning the substantially thin dielectric material (22) to substantially cover the first electrode (20); and

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Adjusting the thickness of the thin dielectric material layer (Col.5, lines: 10-15-controlled deposition is adjusting the thickness; Col.6, lines: 5-15).

In reference to claim 3, Sandhu teaches wherein a dielectric constant of the substantially thin dielectric layer is substantially high (Col.6, lines: 15-45)).

In reference to claim 4, Sandhu teaches wherein the substantially thin dielectric layer includes SiN (Col.2, lines: 20-25).

In reference to claim 5, Sandhu teaches wherein the thickness of the dielectric layer is between 50 to 100 Å- however does teach that the dielectric is thin (Col.6, lines: 5-15).

In reference to claim 6, Sandhu teaches wherein the dielectric constant is between 4 and 100 (Col.1, lines: 15-20).

In reference to claim 7, Sandhu teaches further comprising:

Depositing a second dielectric layer over the substantially thin dielectric layer (23); and

Etching at least one via adaptive to receive the second electrode (Col.3, lines: 50-55).

In reference to claim 8, Sandhu teaches further comprising:

Polishing the second metal layer (Col.3, lines: 50-60).

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In reference to claim 9, Sandhu teaches wherein etching the first electrode in a first dielectric layer of the MLM ((Col.3, lines: 50-60).

In reference to claim 10, Sandhu teaches wherein the first electrode is formed in a parallel line configuration (Fig.3B)

In reference to claim 11, Sandhu teaches wherein the second electrode is formed in a parallel line configuration (Fig.3B)

In reference to claim 12, Sandhu teaches wherein the dielectric is a composite (Fig.3B).

In reference to claim 13, Sandhu teaches wherein the composite comprises PZT and platinum (Col.7, lines: 1-10 and Col.1, lines:60-65).

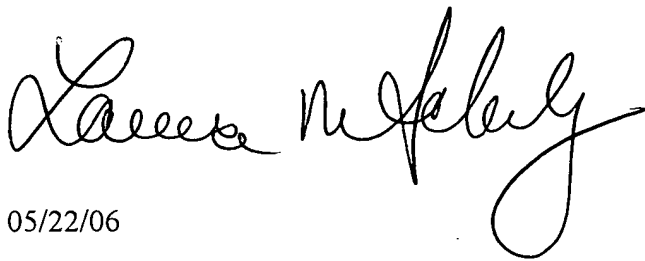
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M. Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Laura M Schillinger', with a large, stylized loop at the end.

Laura M Schillinger
Primary Examiner
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05/22/06